More Projectile Motion Practice Problems
CP and Honors Physics

1. A woman on a bridge 71.0 m high sees a raft floating at a constant speed on the river below. She drops a stone from rest in an attempt to hit the raft. The stone is released when the raft has 6.10 m more to travel before passing under the bridge. The stone hits the water 4.90 m in front of the raft. Find the speed of the raft. [0.315 m/s]
2. A major league pitcher can throw a baseball in excess of 42.3 m/s. if a ball is thrown horizontally at this speed, how much will it drop by the time it reaches the catcher who is 18.7 m away from the point of release? [0.958 m]
3. A rock climber throws a small first aid kit to another climber who is higher up the mountain. The initial velocity of the kit is 23 m/s at an angle of 63° above the horizontal. At the instant when the kit is caught, it is traveling horizontally, so its vertical speed is zero. What is the vertical height between the two climbers? [21.4 m]
4. A tennis ball is struck such that it leaves the racket horizontally with a speed of 30.0 m/s. The ball hits the court at a horizontal distance of 20.2 m from the racket. What is the height of the tennis ball when it leaves the racket? [2.22 m]